UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/407,581	09/28/1999	FREDERIC ZENHAUSERN	4467-103US	2941

7590 09/01/2004

CHARLES J BRUMLILK
MATHEWS COLLINS SHEPHERD & GOULD PA
100 THANET CIRCLE
SUITE 306
PRINCETON, NJ 08540

EXAMINER	
TSAI, CAROL S W	

ART UNIT	PAPER NUMBER
2857	

DATE MAILED: 09/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/407,581	ZENHAUSERN, FREDERIC	
	Examiner	Art Unit	
	Carol S Tsai	2857	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 July 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7,10-13,15,16,18,19 and 43* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7,10-13,15,16,18,19 and 43* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Specification

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "**said**," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the

reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 1, 2, 5, 6, 11-13, 15, 16, and 43 are rejected under 35 U.S.C. 102(e) as being anticipated by U. S. Patent No. .6,658,915 to Sunshine et al.

With respect to claims 1, 5, and 16, Sunshine et al. disclose a non-destructive in situ method for directly monitoring an electronic device, comprising the steps of: measuring volatile organic compound of a material by means of a multisensor array comprising at least one solid-state gas sensor (see Abstract, lines 5-10; col. 2, lines 37-46; col. 2, line 65 to col. 3, line 9; and col. 10, line 41-55); detecting more than one property of the volatile organic compound (see col. 3, lines 28-52 and col. 5, line 58 to col. 6, line 4); combining the detected properties to produce a signal output (see Figs. 9A, 9B, and 9C; Abstract, lines 10-13; col. 1, lines 35-40; col. 10, lines 21-40; and col. 24, lines 33-40); and processing the signal output with multivariate analysis to convert the signal output into information representative of a quality of the material (see col. 24, lines 28-39).

As to claim 2, Sunshine et al. also disclose processing the signal output with a pattern recognition algorithm (see col. 1, lines 30-35 and col. 14, lines 25-32).

As to claim 6, Sunshine et al. also disclose sensory evaluation of the sample materials by human paneling to determine the quality of the material (see col. 20, lines 33-50).

As to claim 11, Sunshine et al. also disclose heat assisting in transferring at least one analyte from the material to the gas, vapor, suspension in a gaseous or volatile organic compound (see col. 11, lines 5-10).

As to claim 12, Sunshine et al. also disclose a surface acoustic wave being used in the detecting step (see col. 11, lines 5-10).

As to claim 13, Sunshine et al. also disclose a metal oxide semiconductor gas sensing device being used in the detecting step (see col. 11, lines 11-18).

As to claim 15, Sunshine et al. also disclose the electronic device being a circuit board or multichip module (see col. 19, lines 26-29).

As to claim 43, Sunshine et al. also disclose an apparatus for probing at least the quality of a material used in electronics or optics, comprising: a multivariate detector having at one of a sensing probe, sensing location, or physicochemical property, the multivariate detector capable of detecting at least one analyte of the material selected from the group consisting of the material, a constituent of the material, a byproduct of the material, and a reaction product of a constituent of the material, a contaminant and a tag (see col. 24, lines 28-39); transmission means for transmitting a signal between the multivariate detector and a data acquisition system , the data acquisition system capable of converting the signal into raw data (see col. 13, line 48 to col. 15, line 43); a computational device (processor 1210 shown on Fig. 12A)) capable of processing at least part of the raw data using multivariate analysis to create a date set (see Figs. 12A and 12B and col. 13, line 64 to col. 15, line 20); and an output device (display 120 shown on Fig. 12A) capable of displaying the data set.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 3, 4, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sunshine et al. in view of U. S. Publication 2002/0094531 to Zenhausern.

As noted above, with respect to claims 3 and 4, Sunshine et al. disclose the claimed invention, expect for the multivariate analysis using unsupervised/supervised statistical pattern recognition.

Zenhausern teaches the multivariate analysis using unsupervised/supervised statistical pattern recognition (see paragraph 0049).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Sunshine et al.'s method to include the multivariate analysis using unsupervised/supervised statistical pattern recognition, as taught by Zenhausern, in order that multiple variables can be converted into useful analytical data by multivariate analysis (see paragraph 0013, lines 1-2).

As to claim 7, Sunshine et al. do not disclose the step of measuring using a near-field probe which comprises a coated optical fiber.

Zenhausern teach the step of measuring using a near-field probe which comprises a coated optical fiber (see paragraph 0077).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Sunshine et al.'s method to include the step of measuring using a near-field probe which comprises a coated optical fiber, as taught by Zenhausern, in order to

monitor, analyze, and/or discriminate molecular species, preferably a biomolecule, within a medium using a multisensor array (MSA) and multivariate processing.

7. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sunshine et al. in view of U. S. Patent No. 5,732,476 to Pare.

As noted above, Sunshine et al. disclose the claimed invention, except for at least one analyte being collected by a static headspace technique.

Pare teaches at least one analyte being collected by a static headspace technique (see col. 11, lines 44-49).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Sunshine et al.'s method to include at least one analyte being collected by a static headspace technique, as taught by Pare, in order that the detection of alcohol from an aqueous sample can be performed on a conventional headspace sampler.

8. Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sunshine et al. in view of U. S. Patent No. U. S. Patent No. 6,330,464 to Colvin, Jr. et al.

As noted above, with respect to claims 18 and 19, Sunshine et al. disclose the claimed invention, expect for the circuit board being in a soldering operation.

Colvin, Jr. et al. teach the circuit board being in a soldering operation (see col. 11, lines 28-36 and col. 22, line 63 to col. 23, line 6).

It would have been obvious to one having ordinary skill in the art at the time the

invention was made to modify Sunshine et al.'s method to include the circuit board being in a soldering operation, as taught by Colvin, Jr. et al., in order to provide an electrical conduction path through a mechanical interface from the sensors to external devices which detect and process the electrical signals generated by the sensors.

Response to Arguments

9. Applicant's arguments filed July 15, 2004 have been fully considered but they are not persuasive.

Applicant argues that the subject matter of claims 1-2, 5-6, 11-13, 15-16 and 43 are rejected under 35 USC §102(e) as alleged anticipated by the disclosure of U. S. Patent No. 6,658,915 to Sunshine et al.; however, since Sunshine et al.'s application was filed March 15, 2002, i.e., that is after the filing date of the claimed invention, the disclosure of the Sunshine et al. is not available as prior art. The Examiner disagrees with Applicant. U. S. Patent 6,658,915 to Sunshine et al. can be properly applied as a reference, since U. S. 6,658,915 to Sunshine et al. is a divisional application of U.S. Application Ser. No. 09/796,877, filed February 28, 2001, allowed to be grated on July 16, 2002, now U.S. Patent No. 6,418,783, which is a continuation of U.S. Application Serial No. 09/548,948, filed April 13, 2000, now U.S. Patent No. 6,234,006, dated May 22, 2001, which is a continuation application of U.S. Application Serial No. 09/271,873, filed Mar. 18, 1999, now U.S. Patent No. 6,085,576, dated July 11, 2000. See 35 USC § 102(e) (I), MPEP 706.02, and MPEP 2136.03.

Applicant argues that Sunshine et al.'s disclosure, nevertheless, in sharp contrast to the Applicant's claimed invention defined by the current claims, is drawn toward portable handheld

sensor and is not literally described, contemplated or suggested to be employed in method within the scope of the Applicant's claims and that even if the disclosure of Sunshine et al. were available under 35 USC §102(e), the disclosure cannot as a matter of law anticipate the Applicant's defined method. The Examiner disagrees with Applicant. As set forth above in the art rejection, Sunshine et al. clearly disclose applicant's claimed invention.

Applicant argues that Zenbausern was published in July 18, 2002, but Applicant's filing date was September 28, 1999, and therefore that Zenbausern is improperly applied as a reference. The Examiner disagrees with Applicants. U. S. Patent Application Publication 2002/0094531 can be properly applied as a reference, since U. S. Patent Application Publication 2002/0094531 is a division Application No. 09/332,659, filed on June 14, 1999. See 35 USC § 102(e) (I) and MPEP 2136.03.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carol S. W. Tsai whose telephone number is (571) 272-2224. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S. Hoff can be reached on (571) 272-2216. The fax number for TC 2800 is (703) 872-9306. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 2800 receptionist whose telephone number is (571) 272-1585 or (571) 272-2800.

In order to reduce pendency and avoid potential delays, Group 2800 is encouraging FAXing of responses to Office actions directly into the Group at (703) 872-9306. This practice may be used for filing papers not requiring a fee. It may also be used for filing papers which require a fee by applicants who authorize charges to a PTO deposit account. Please identify the examiner and art unit at the top of your cover sheet. Papers submitted via FAX into Group 2800 will be promptly forwarded to the examiner.

Carol S. W. Tsai
Patent Examiner
Art Unit 2857

08/30/04